WHAT IS CLAIMED IS:

1. A substantially pure polypeptide, wherein said polypeptide increases calcium release from porcine ciliated tracheal cells, and wherein the molecular weight of said polypeptide is between about 30 kDa and about 150 kDa.

2. The polypeptide of claim 1, wherein said polypeptide is a mycoplasma polypeptide.

3. The polypeptide of claim 1, wherein said polypeptide is obtained from pathogenic *Mycoplasma hyopneumoniae*.

4. The polypeptide of claim 1, wherein said polypeptide is about 80 percent pure.

5. The polypeptide of claim 1, wherein said polypeptide is about 90 percent pure.

6. The polypeptide of claim 1, wherein the molecular weight of said polypeptide is about 30 kDa.

7. The polypeptide of claim 1, wherein the molecular weight of said polypeptide is about 60 kDa.

8. The polypeptide of claim 1, wherein the molecular weight of said polypeptide is about 65 kDa.

9. The polypeptide of claim 1, wherein the molecular weight of said polypeptide is about 90 kDa.

10. The polypeptide of claim 1, wherein the molecular weight of said polypeptide is about 120 kDa.

11. The polypeptide of claim 1, wherein said polypeptide is a tryptic fragment.

12. The polypeptide of claim 1, wherein the molecular weight of said polypeptide following a tryptic digest is about 35 kDa.

13. The polypeptide of claim 1, wherein the molecular weight of said polypeptide following a tryptic digest is about 50 kDa.

14. A substantially pure antibody capable of binding a polypeptide, wherein said polypeptide increases calcium release from porcine ciliated tracheal cells, and wherein the molecular weight of said polypeptide is between about 30 kDa and about 150 kDa.

15. The antibody of claim 14, wherein said antibody is a monoclonal antibody.

16. The antibody of claim 14, wherein said antibody is a mouse antibody.

17. The antibody of claim 14, wherein said polypeptide is a tryptic fragment.

18. The antibody of claim 14, wherein said polypeptide is a mycoplasma polypeptide.

19. The antibody of claim 14, wherein said polypeptide is obtained from pathogenic *Mycoplasma hyopneumoniae.*

20. The antibody of claim 14, wherein said antibody is about 80 percent pure.

21. The antibody of claim 14, wherein said antibody is about 90 percent pure.

22. A method for inducing an immune response in a mammal, wherein said immune response is against a mycoplasma polypeptide, said method comprising administering a substantially pure mycoplasma polypeptide to said mammal under conditions wherein said mammal produces antibodies against said polypeptide, wherein said polypeptide

increases calcium release from porcine ciliated tracheal cells, and wherein the molecular weight of said polypeptide is between about 30 kDa and about 150 kDa.

23. The method of claim 22, wherein said mammal is a mouse, rabbit, or pig.

24. A method for binding an antibody to a polypeptide, wherein said polypeptide increases calcium release from porcine ciliated tracheal cells, and wherein the molecular weight of said polypeptide is between about 30 kDa and about 150 kDa, said method comprising:

a) obtaining an antibody capable of binding said polypeptide, and

b) contacting said antibody with said polypeptide under conditions wherein said antibody binds said polypeptide.

25. The method of claim 24, wherein said antibody is a monoclonal antibody.

26. The method of claim 24, wherein said antibody is a mouse antibody.

27. The method of claim 24, wherein said polypeptide is a mycoplasma polypeptide.

28. A method for identifying an inhibitor of mycoplasma induced calcium release from cells, said method comprising:

a) contacting cells with a mycoplasma polypeptide and a test compound, wherein said polypeptide increases calcium release from porcine ciliated tracheal cells, and wherein the molecular weight of said polypeptide is between about 30 kDa and about 150 kDa,

b) determining whether said test compound inhibits said cells from releasing calcium, wherein inhibition of calcium release from said cells by said test compound indicates that said test compound is said inhibitor.

29. The method of claim 28, wherein said test compound is a protease.

30. The method of claim 28, wherein said test compound is an antibody.

31. A method for identifying an inhibitor of calcium release from cells induced by a mycoplasma polypeptide, wherein said polypeptide increases calcium release from porcine ciliated tracheal cells, and wherein the molecular weight of said polypeptide is between about 30 kDa and about 150 kDa, said method comprising:

a) contacting cells with a mycoplasma polypeptide pretreated with a test compound, and

b) determining whether said test compound inhibits said cells from releasing calcium, wherein inhibition of calcium release from said cells by said test compound indicates that said test compound is said inhibitor.

32. The method of claim 31, wherein said test compound is a protease.

33. The method of claim 31, wherein said test compound is an antibody.